

Lifelong Learning Lab

Smarter Assignments, Better Feedback, More Learning

Brandon Garzez



COLLEGE OF ENGINEERING
HONORS PROGRAM
UNIVERSITY OF MICHIGAN

About Me



From Pittsburgh, PA
B.S.E. Computer Science, December 2021
Minor in Entrepreneurship
HKN-BE Member, IEEE Honor Society



And a big fan of Michigan Football!

And yes...

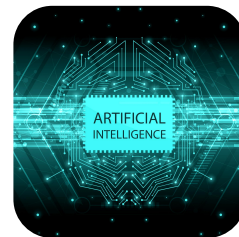
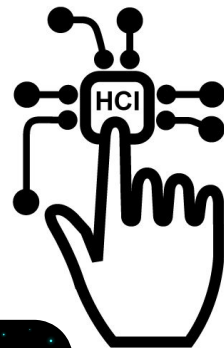


November 27, 2021

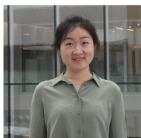
... I mean a BIG fan!

About the Lifelong Learning Lab

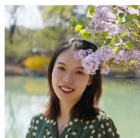
- Research Human-Computer Interaction, Learning Sciences, and Artificial Intelligence
- Goal: help people gain knowledge and acquire skills more easily and efficiently
- Develop techniques that support and optimize human learning
- Learn about *how* humans learn



People



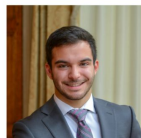
Xu Wang
Assistant Professor



Xinyue Chen
Ph.D. Student



Zhaoyuan Zhang
Masters Student



Brandon Garzez
Undergraduate Student



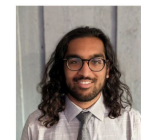
Xiaofei Zhou
Visiting Ph.D. Student



Daniel De Angelo
Visiting Masters Student



Erin Deutschman
Masters Student



Nithin Weerasinghe
Undergraduate Student



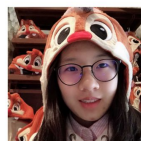
Isaac Moothart
Undergraduate Student



Jessie Houghton
Undergraduate Student



Matthew Tomaszewski
Undergraduate Student

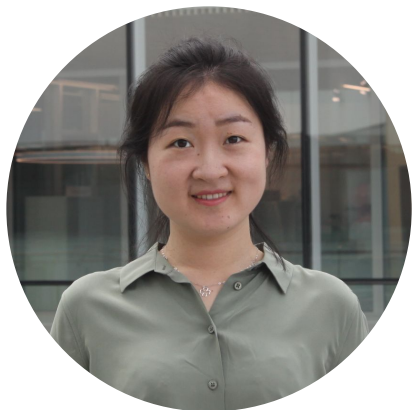


Lyubing Qiang
Undergraduate Student

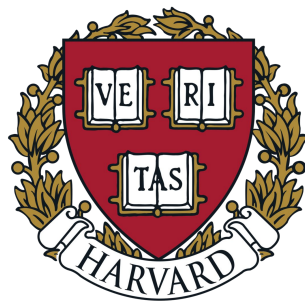


Shipeng Liu
Visiting Undergraduate Student

Meet my Faculty Advisor



Prof. Xu Wang
Assistant Professor in CSE



Master of Education in
Technology, Innovation and
Education

Carnegie Mellon University

Ph.D. in Human-Computer
Interaction



Assistant Professor



How I got involved with the Lifelong Learning Lab

January 2021



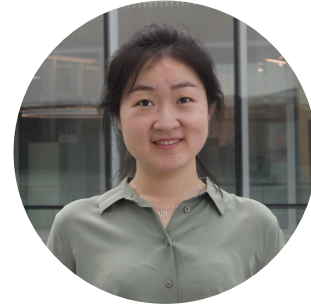
Began taking EECS 445:
Machine Learning

April 2021



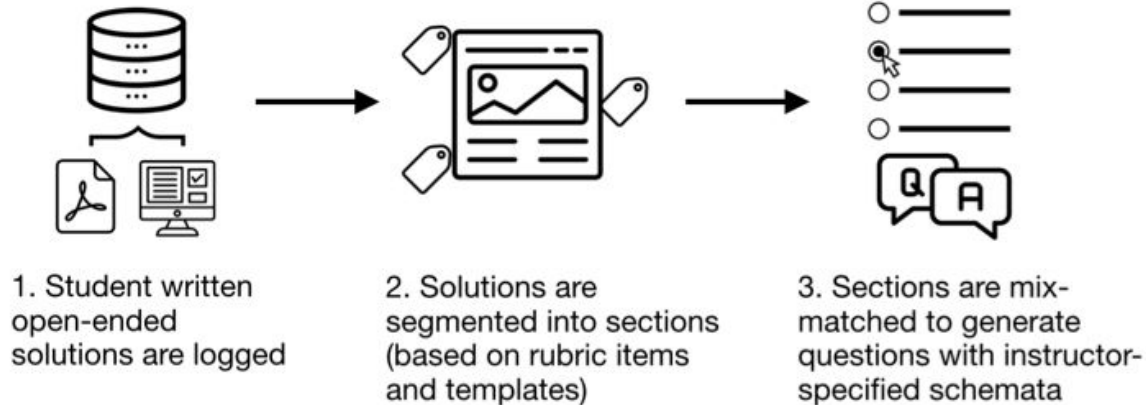
Reached out to Prof.
Jenna Wiens about
research

August 2021

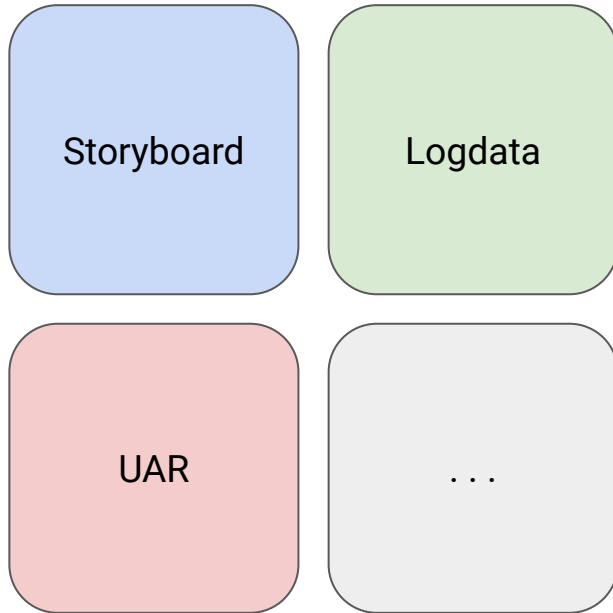


Interviewed with Prof. Xu
Wang for Lifelong
Learning Lab

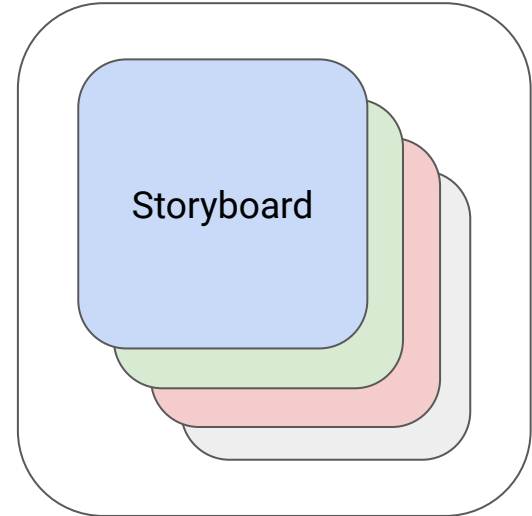
UPGrade: Sourcing Student Open-Ended Solutions to Create Scalable Learning Opportunities



Development Goals

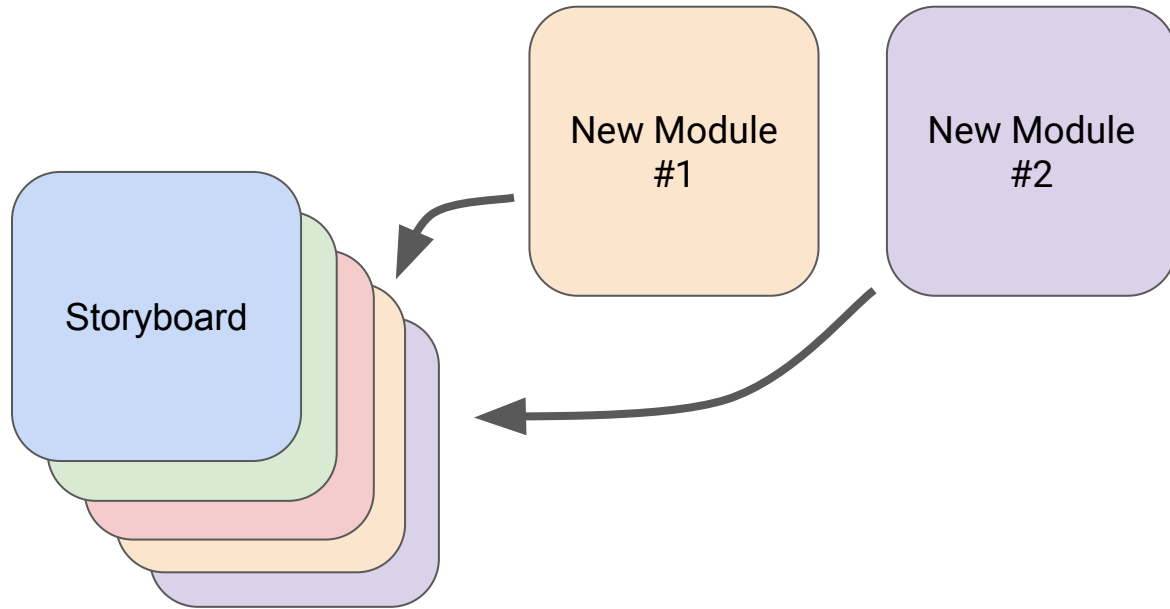


Separate modules which run as individual Django applications



Single Django application which contains all modules & enables navigation between modules

Development Goals

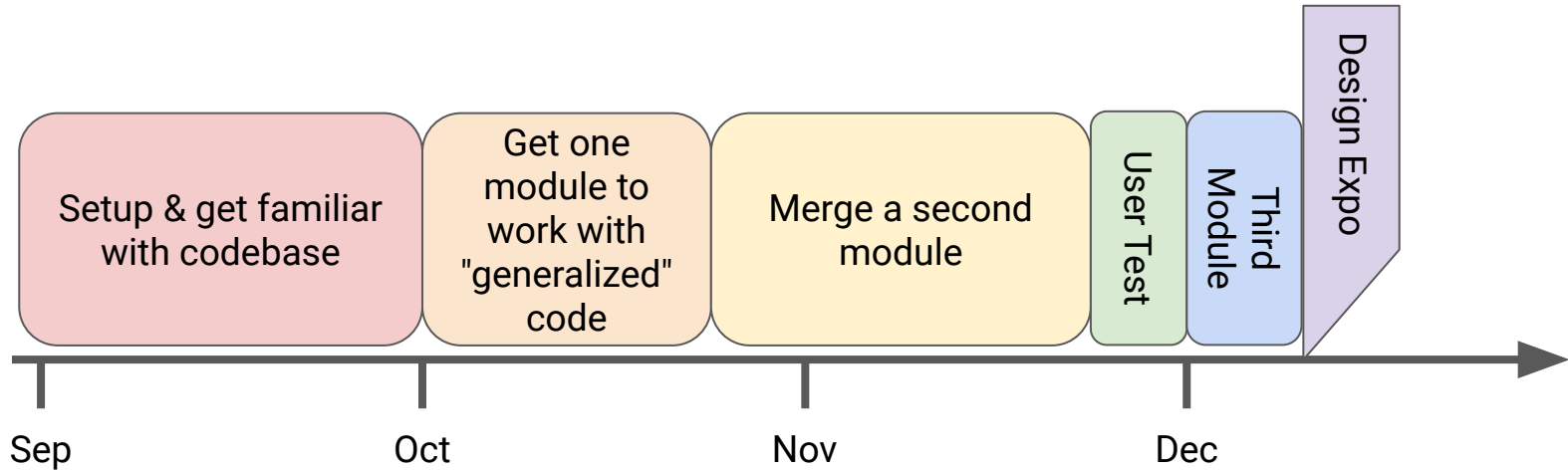


Easily add additional modules to the application

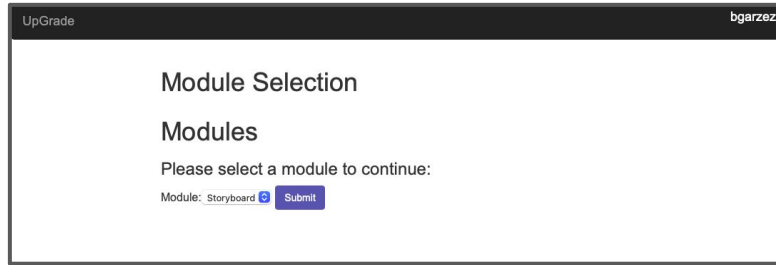


Requires templated modules, backend code, and HTML

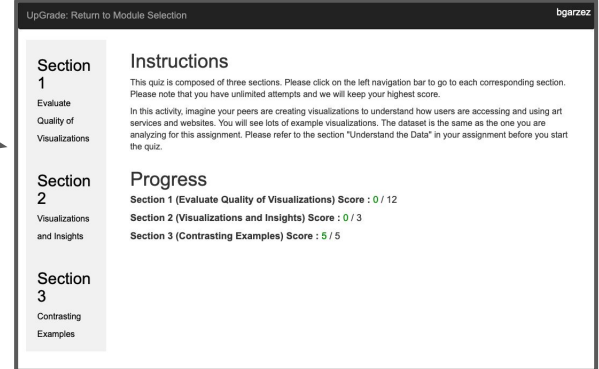
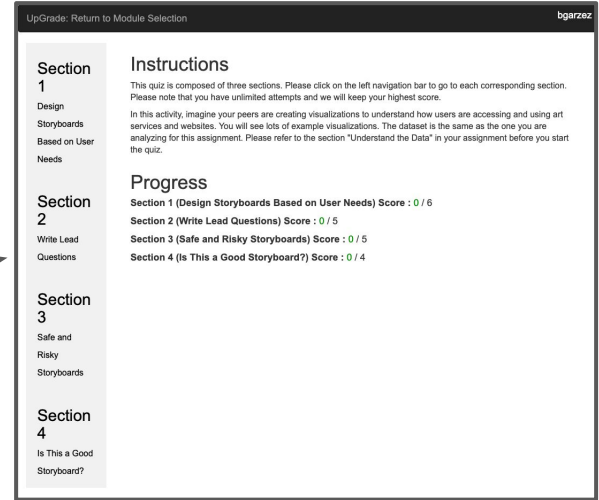
Project Timeline



Results

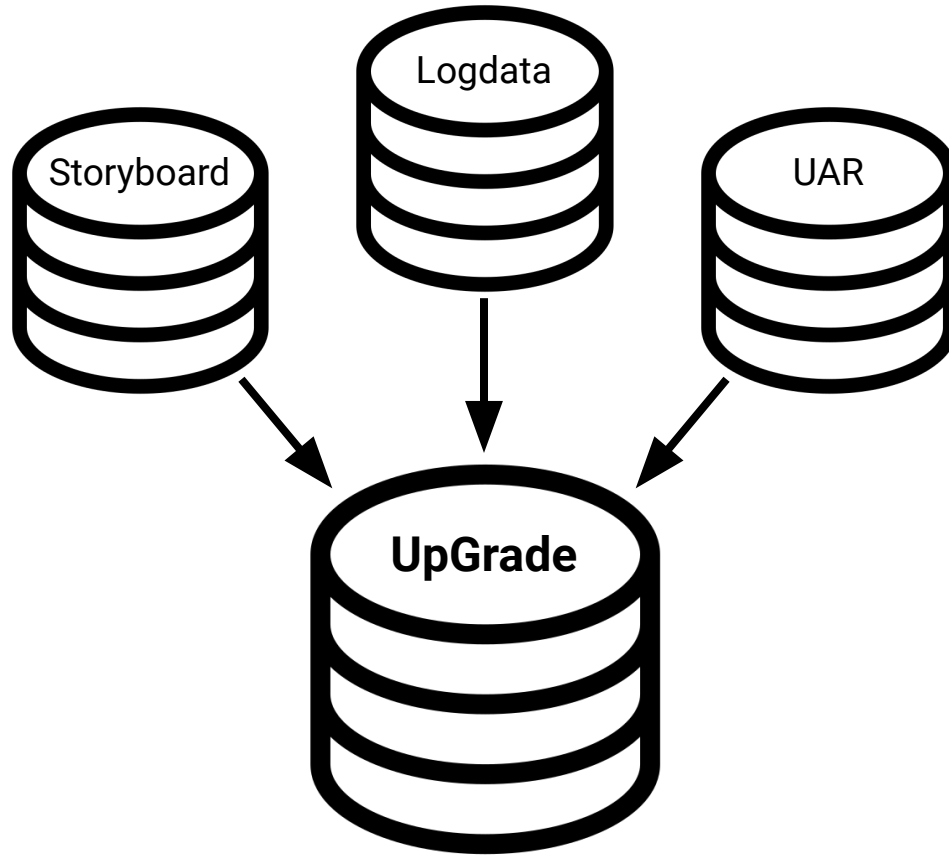


Navigation Page

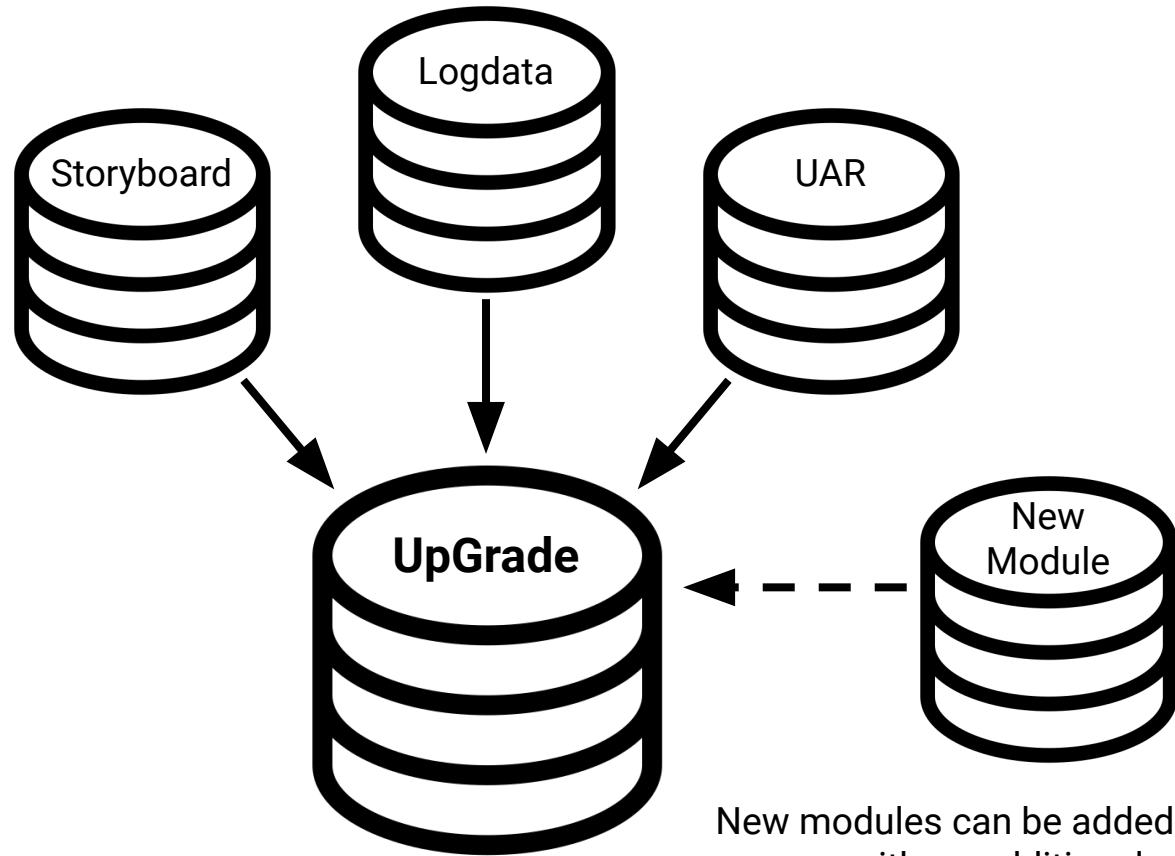


Module Pages

Results



Results



New modules can be added to database
with no additional effort



Reflection: The Good

django

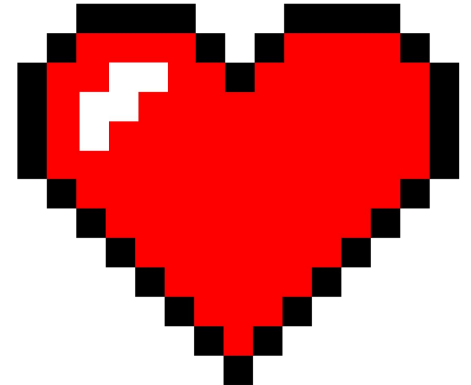
Learned Django framework



Built a functional application



Learned JQuery



Solidified my love for web development

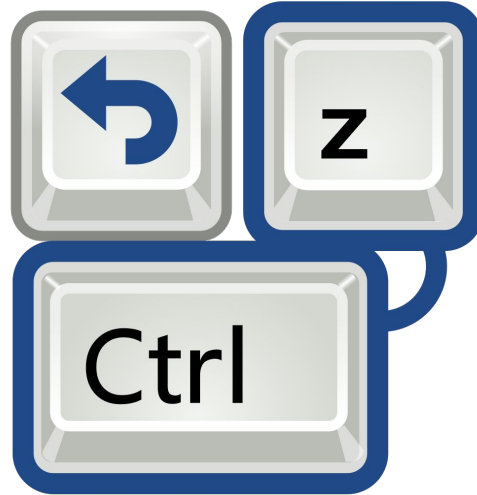


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Reflection: The Not So Good



Rushed to complete user test,
fix bugs, and build report



Had to refactor code many times
due to "greedy" approach



Dove in without fully
understanding project

The Next Steps



Improve look & feel with CSS



Completely generalize database
with no special cases for certain
modules

Thank you!

Questions? Let's get in touch!

bgarzez@umich.edu



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